



National Aeronautics and Space Administration
Goddard Space Flight Center

Wallops Flight Facility, Wallops Island, Virginia

Inside Wallops

Volume XIX-99

Number 43

November 8, 1999

NASA Technology Tracks Consequences of Hurricane Floyd

A NASA oceanographer, using spaceborne technologies to study the effects of Hurricane Floyd, has seen indications that there may be significant impacts on the marine food chain along the North Carolina coast due to extensive rainfall in the region.

"Following Hurricane Floyd, record-breaking rains continued to soak the area, washing mountains of sediment and waste into the water system. Now rivers and tributaries along the Atlantic are choked and major ecological changes are happening," said Gene Feldman, of NASA's Goddard Space Flight Center.



Sept. 23, 1999 SeaWiFS image

"Periodically, levels of dissolved oxygen in the water have dropped dramatically as organic matter decomposes, and aquatic life has been threatened in dozens of estuaries and peripheral habitats, commonly referred to as 'dead zones.' The current changes in the area may have lasting repercussions for hundreds of thousands of people," he said.

Scientists are studying Hurricane Floyd's effect on algae blooms and phytoplankton, important links in the regional marine food chain. Their data also will help them understand how the hurricane's aftermath may affect the fragile environment in the coming months.

Wallops Supports Research

Using data from NASA's Earth-orbiting Sea-viewing Wide Field-of-view Sensor (SeaWiFS) and an airborne laser instrument, scientists from two National Oceanic and Atmospheric Administration (NOAA) centers can monitor algae growth over large regions, including Pamlico Sound between the North Carolina mainland and the Outer Banks.

According to Pat Tester, a NOAA scientist at the Center for Coastal Fisheries and Habitat Research, Beaufort, N.C., fertilizer and other nutrients that flowed down the storm flooded rivers in eastern North Carolina are feeding the algae or phytoplankton in the sounds.

"One question is what happens to the aquatic activity in the sounds when this algae dies and begins to starve the waters of oxygen," Tester said. "The long-term observations provided by the NASA technology will help us monitor the phytoplankton in the water.

"The NASA technology improves our ability to monitor these important fishery areas by covering larger areas than direct sampling from boats can, and by providing this information for weeks or months."

Tester's team is coordinating sampling missions from small boats on the waterways with flights by a NOAA Twin-Otter aircraft carrying the NASA laser and observations from the SeaWiFS spacecraft. "This approach is providing a three-tier look at the area from space, air and sea," she said.

The laser system is the Airborne Oceanographic Lidar (AOL) from Goddard's Wallops Flight Facility. According to AOL Principal Investigator, Frank Hoge, the instrument transmits a green light pulse into the water where it is absorbed by the phytoplankton which then emits a small amount of red fluorescence related to the amount of chlorophyll pigment in the algae. This red light is then measured by the AOL receiver on the aircraft.

The SeaWiFS instrument measures changes in water color that indicate where concentrations of phytoplankton are located.

NOAA's Coastal Services Center, Charleston, S.C., is also taking part in the research.

Images from SeaWiFS of eastern North Carolina following Hurricane Floyd are available at the following web addresses. <http://svs.gsfc.nasa.gov/imagewall/carolina.html>



First Female Shuttle Commander Eileen Collins Receives Jackie Robinson Medal

NASA astronaut Eileen Collins, a New York native, has received the state's highest award, the Jackie Robinson Empire State Freedom Medal, for her achievement as the first female Space Shuttle commander.



Commander Eileen Collins

Collins has "etched her mark on history by knocking down barriers," said New York Gov. George E. Pataki, who presented the award to Collins. "A bold pioneer of the reaches of space, her talent, intelligence and courage set an example that every woman and every man can hope to duplicate in their own lives."

During the historic STS-93 mission, Collins and her crew deployed the heaviest, largest and most powerful X-ray telescope ever launched into space.

The Freedom Medal, established in 1997, is given annually to those who best demonstrate the qualities of determination, dignity, fairness and honor that were exemplified by Jackie Robinson, who broke major league baseball's color barrier. The medal has an imprint of Jackie Robinson on the front with the words "Freedom, Honor, Liberty." The back reads: "Presented to honor conduct exemplifying the spirit of New York as demonstrated by the life of Jack Roosevelt Robinson."

Collins was selected as an astronaut in 1990 and became the first woman to pilot the Space Shuttle in 1995. She has flown three missions and logged more than 500 hours in space.

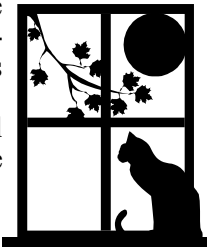
Collins, an Air Force colonel, graduated from Syracuse University in 1978, before joining the Air Force. During her Air Force career, she has worked as an instructor pilot, aircraft commander, and assistant professor of mathematics at the U.S. Air Force Academy, Colorado Springs, CO.

October Weather Summary

by Jim Buchanan, Meteorologist

The hurricane season is coming to a close and once again this area was spared as Hurricane Harvey turned to a weakening tropical storm Harvey passing well to the south of the Eastern Shore. Harvey dumped 3.3 inches of rainfall on Oct. 17 and 18 but caused no real damage.

A trailing frontal system on Oct. 20 brought another 1.06 inches of rain. It was actually a good thing these two systems passed through. Otherwise, there would have only been .36 inches of rain during October which is nearly 2.5 inches below normal. Thanks to Harvey and the frontal system bringing a total of 4.72 inches of rain, which is 1.89 inches above normal. The additional rainfall puts this area at 7.31 inches above normal rainfall for this time of year.



Temperatures during October were slightly cooler than usual with a monthly average of 57.5 degrees, 1.5 degrees below normal. There were only 10 days when the temperature was 70 degrees or higher. The highest temperature recorded during October was 79 degrees. A reading of 75 degrees on Oct. 31 tied the record temperature for that date. There were three days when the high temperature was only in the 50s with 55 degrees being the lowest daily high temperature recorded. A new record low temperature of 39 degrees was reached on Oct. 8. The previous record low of 40 degrees was set on Oct. 8, 1988. A reading of 37 degree on Oct. 24 was the lowest for the month. Actual average temperatures for October was a high of 67 degrees and a low of 48 degrees.

Looking forward to December and the onset of winter, temperatures will drop off noticeably as the days get shorter and the nights longer. For those who remember last year, there were five new record high temperatures set during the first seven days of December as part of a warm spell that began over the Thanksgiving weekend. A reading of 77 degrees on Dec. 7 of last year is the highest on record for the month. Normal highs for December average near 49 degrees with nighttime lows just below freezing. The coldest reading on record for December is 4 degrees set on Dec. 21, 1989. There are usually nine days of measurable precipitation during the month with one of those days bringing measurable snowfall. Average rainfall for the month is just over 3 inches and average snowfall is just over an inch.

The Weather Office staff would like to wish everyone a safe and happy Thanksgiving and ask that you take a moment on Veteran's Day to give thanks for the freedoms we enjoy and those who have kept us free.



All Wallops employees are invited to a Morning Coffee Nov. 17 8 to 9 a.m. Cafeteria



Fire Department Responses

The Wallops Fire Department responded to a mutual aid call from Accomack County 911 to assist with a fire on Wishart's Point Road near Atlantic on Oct. 24.

During the period from Oct. 21 to Nov. 3, they also responded to two fire alarms and one Haz Mat call involving a slight fuel spill on the Base.

What is a Veteran?

Some veterans bear visible signs of their service: a missing limb, a jagged scar, a certain look in the eye. Others may carry the evidence inside them: a pin holding a bone together, a piece of shrapnel in the leg-or perhaps another sort of inner steel: the soul's ally forged in the refinery of adversity.

Except in parades, the men and women who have kept America safe wear no badge or emblem. You can't tell a vet just by looking. What is a veteran?

They are an ordinary, and yet, an extraordinary, human being. A person who offered some of their most vital years in the service of their country, and who sacrificed their own ambitions so others would not have to sacrifice theirs.

So remember, each time you see someone who has served our country, just lean over and say "Thank You." That's all most people need, and in most cases it will mean more than any medals they could have been awarded or were awarded.



November 11 is Veterans Day -- "Thank you!"

Planning for Mission 2005

In mid-September, representatives from all the Codes at Wallops met to begin the process of developing a strategic plan that will lead us to 2005. As part of this process, input is needed from employees to map out the plan we will follow together towards 2005.

Employee forums will be held Nov. 15 and 16 in the Assateague Rm., Bldg. E-104. Four sessions will be held. If you cannot attend your time slot, feel free to attend any of the other forums.

Nov. 15	First letter of last name
9:30 — 11 a.m.	A - G
1 — 2:30 p.m.	H - M
Nov. 16	
9:30 — 11 a.m.	N - S
1 — 2:30 p.m.	T - Z

A make-up session for Civil Service employees will be held on Dec. 2 at 9:30 a.m. in the Bldg. E-2 Conference Room.

The purpose of the forums will be to:

- share the initial results of strategic planning sessions
- provide the opportunity for employees to assist in the development of specific actions to reach our goals
- solicit input from the employees on their vision of Wallops' future.

The forums will be facilitated by members of the Mission 2005 Strategic Planning team.

These initial sessions are for Civil Service employees. A follow-up session is slated for early December for all employees.

Leadership and Strategy Satellite Series

Strategic Planning
Michael Porter - Presenter
Wallops TV Channel 6
Nov.17
3 to 4:30 p.m.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees.

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Photography Optical Section
Printing Printing Management Office